

Amendments to the Second Substitute Specification:

Please replace paragraph [0049] as follows:

[0049] A seismic receiver R (hydrophone, geophone or preferably a combination of these two pickups) is arranged preferably substantially vertical to the well containing the vibrators or at a sufficiently small horizontal distance so that the traveltimes between each vibrator and this receiver R are not substantially different from the vertical traveltimes. The receiver can be positioned in the well containing the vibrators and it is connected to an acquisition and processing unit 15 arranged at the surface for example. If several receivers are positioned along the well below the vibrators, the deepest one will for example be selected. A receiver arranged at the surface can also be used. The traveltime θ_i of the waves between each vibrator V_i and this receiver R is first measured. The time lags t_i ($i=1$ to n) to be applied to the various vibrators V_i are deduced from these traveltimes by the relation $t_i = K + \varepsilon \cdot \theta_i$ where K is a constant and ε is +1 or -1 according to whether receiver R is arranged above or below the set of vibrators. Unit 15 controls application of these time lags to the vibrators by means of control box 14.

Please replace paragraph [0051] as follows:

[0051] According to the embodiment of Figure 4, it is also possible to control sequential triggering of the vibrators placed in the well by associating with each one a seismic receiver such as a geophone G1. Each geophone is for example fastened to a support 16 arranged between two anchor bars 9. The geophones are connected respectively to acquisition and processing unit 15 outside the well. For real-time adjustment of the triggering delay of any vibrator V_i in relation to the first one of the

series, the effective traveltime of the waves between geophones is measured by means of any method of measuring the lag between signals, notably by carrying out a crosscorrelation between the signals delivered respectively by the geophones, either in the time domain or in the frequency domain, and vibrator V_i is triggered by taking account of this effective traveltime. This time lag measurement can be performed by crosscorrelation. The time lags calculated by processing unit 15 are transmitted to control box 14 which accordingly delays the various vibrators in relation to the first one.